

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (CURRENTLY AMENDED) A method of diagnosing a patient, the method comprising:
 - (a) selecting a ligand that binds to a heat stable toxin biological receptor;
 - (b) preparing a first generation of monoclonal antibodies against the receptor binding ligand;
 - (c) isolating the first generation of monoclonal antibodies;
 - (d) preparing monoclonal anti-idiotypic antibodies against the first generation of monoclonal antibodies to result in internal image anti-receptor antibodies from the anti-idiotypic antibodies;
 - (e) isolating the internal image anti-receptor antibodies from the anti-idiotypic antibodies;
 - (f) conjugating the internal image anti-receptor antibodies to a photoactive dye;
 - (g) administering an effective concentration of the conjugate of step [(e)] (f) to a patient;
 - (h) allowing the conjugate to accumulate at a target site within the patient; and
 - (i) exposing the target site to light sufficient to activate the photoactive dye to image the target site.
2. (PREVIOUSLY PRESENTED) The method of claim 1 wherein said receptor-binding ligand is selected from the group consisting of drugs, hormones, peptides, carbohydrates, peptidomimetic, and glycomimetics.
3. (PREVIOUSLY PRESENTED) The method of claim 1 wherein said dye is selected from the group consisting of cyanines, indocyanines, phthalocyanines, rhodamines, phenoxazines, phenothiazines, phenoselenazines, fluoresceins, porphyrins, benzoporphyrins, squaraines, corrins, croconiums, azo compounds, methine dyes, and indolenium.
4. (PREVIOUSLY PRESENTED) The method of claim 1 wherein said effective concentration of the internal image antibody conjugate ranges from about 0.1 mg/kg body weight to about 500 mg/kg body weight.
5. (PREVIOUSLY PRESENTED) The method of claim 1 wherein the effective concentration of the internal image antibody conjugate ranges from about 0.5 mg/kg body weight to about 2 mg/kg body weight.
6. (PREVIOUSLY PRESENTED) The method of claim 1 wherein imaging is selected from at least one of absorbance, fluorescence, scattering, and combinations thereof.

7. (PREVIOUSLY PRESENTED) The method of claim 1 wherein said target site is selected from the group consisting of tumors, lesions, necrotic regions, ischemic regions, thrombic regions, inflammatory regions, impaired vasculature, and combinations thereof.

8-16. (CANCELED)

17. (CURRENTLY AMENDED) A method of imaging a body region of a patient, the method comprising

administering to a patient a photodiagnostic composition comprising at least one pharmaceutical carrier or excipient and an internal image antibody to a heat stable toxin biological receptor conjugated to a photoactive dye at a dose effective for photodiagnosis, wherein the dye is selected from the group consisting of cyanines, indocyanines, phthalocyanines, rhodamines, phenoxazines, phenothiazines, phenoselenazines, fluoresceins, porphyrins, benzoporphyrins, squaraines, corrins, croconiums, azo compounds, methine dyes, and indolenium, and;

thereafter providing light sufficient to activate said photoactive dye in said body region to image said body region.

18. (CANCELED)

19. (PREVIOUSLY PRESENTED) The method of claim 17 wherein light is provided at a wavelength in the range of about 300 to 1200 nm.

20. (PREVIOUSLY PRESENTED) The method of claim 17 wherein imaging is by a method selected from the group consisting of absorbance, fluorescence, scattering, and combinations thereof.

21. (PREVIOUSLY PRESENTED) The method of claim 17 wherein said effective dose is in the range of about 0.1 mg/kg to about 500 mg/kg body weight.

22-27. (CANCELED)

28. (WITHDRAWN) An anti-receptor internal image antibody conjugate of formula 1

Ab - Dye

wherein Ab is a whole or fragmented internal image antibody which retains binding affinities directed at a heat stable toxin receptor, dye is a fluorophore or a chromophore capable of absorbing or emitting light having a wavelength in the range of 300-1200 nm, and optionally a linker L linking Ab and Dye represented as Ab-L-Dye, wherein L is selected from the group consisting of -HNCONH-, -HNCSNH-, -HNCO-, -CONH-, -S(CH₂)_mCONH-, and -S-(N-

succinimido)-(CH₂)_nCONH- where m and n vary from 1 to 10.

29. (WITHDRAWN) The conjugate of claim 28 wherein Dye is selected from the group consisting of cyanines, indocyanines, phthalocyanines, rhodamines, phenoxazines, phenothiazines, phenoselenazines, fluoresceins, squaraines, corrins, croconiums, azo compounds, methine dyes, indolenium, and combinations thereof.

30. (CURRENTLY AMENDED) The method of claim 1 wherein binding of the ligand to a heat stable toxin receptor is used to diagnose in diagnosis of colorectal cancer.

31. (CURRENTLY AMENDED) The method of claim 17 where binding of Ab to a heat stable toxin receptor is used to diagnose in diagnosis of colorectal cancer.